

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

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26

Date of mailing (day/month/year) 18 May 2006 (18.05.2006)	
Applicant's or agent's file reference FP04-0298-00	IMPORTANT NOTIFICATION
International application No. PCT/JP2004/011164	International filing date (day/month/year) 04 August 2004 (04.08.2004)
Applicant SUMITOMO ELECTRIC INDUSTRIES, LTD. et al	

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
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## PATENT COOPERATION TREATY

## PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference FP04-0298-00	FOR FURTHER ACTION		See item 4 below
International application No. PCT/JP2004/011164	International filing date (day/month/year) 04 August 2004 (04.08.2004)	Priority date (day/month/year) 04 August 2003 (04.08.2003)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant SUMITOMO ELECTRIC INDUSTRIES, LTD.			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).
2. This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Box No. I    | Basis of the report   |
| <input type="checkbox"/> Box No. II              | Priority  |
| <input type="checkbox"/> Box No. III             | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/> Box No. IV              | Lack of unity of invention  |
| <input checked="" type="checkbox"/> Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI              | Certain documents cited   |
| <input type="checkbox"/> Box No. VII             | Certain defects in the international application  |
| <input checked="" type="checkbox"/> Box No. VIII | Certain observations on the international application   |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis.2).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 740 14 35	Date of issuance of this report 08 May 2006 (08.05.2006)
	Authorized officer  Masashi Honda  Telephone No. +41 22 348 70 00

Form PCT/IB/373 (January 2004)

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# PATENT COOPERATION TREATY

TRANSLATION

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis 1)

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

Date of mailing  
(day/month/year)

Applicant's or agent's file reference

FP04-0298-00

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/011164

International filing date (day/month/year)

04.08.2004

Priority date (day/month/year)

04.08.2003

International Patent Classification (IPC) or both national classification and IPC

Applicant

SUMITOMO ELECTRIC INDUSTRIES, LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66 1bis(b) that written opinions of this International Searching Authority will not be so considered

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later

For further options, see Form PCT/ISA/220

3. For further details see notes to Form PCT/ISA/220

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/011164

Box No. 1 Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

This opinion has been established on the basis of a translation from the original language into the following language

\_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☐

in written format

☐

in computer readable form

c. time of filing/furnishing

☐

contained in the international application as filed.

☐

filed together with the international application in computer readable form

☐

furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/011164

Box No. V	Reasoned statement under Rule 43bis(IIa)(i) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement		
1	Statement		
	Novelty (N)	Claims 21-40	YES
		Claims 1-20	NO
	Inventive step (IS)	Claims .	YES
		Claims 1-40	NO
	Industrial applicability (IA)	Claims 1-40	YES
		Claims	NO
2	Citations and explanations:		
<p>Document 1: Measurement of Optical Fiber Loss and Splice Loss by Backscatter Method, (M. Nakahira, et al.), The Transactions of the IECE of Japan, October 1980, Vol. E 63, No. 10, pages 762-767, (particularly, 2.2 Experimental equipment, and 5. Splice loss measurement)</p> <p>Document 2: Measurement of Optical Fiber Loss by Backscatter Method, (M. Nakahira, et al.), Technical Journal of Electrical Communication Laboratory, 1980, Vol. 29, No. 11, pages 1851-1860, (particularly, 3. Configuration of measurement system, and 6. Study of measurement method for splice loss)</p> <p>Document 3: The Study on the Splice Loss Measurement by Uni-Directional OTDR and its Error Factors, (B.C. Lee, et al.), Communication Cables and Related Technologies, 1998, pages 291-296</p> <p>Document 4: JP, 2003-511736, A (Corning Inc.), 25 March, 2003 (25.03.03), full text, drawings, (particularly, Table 1 and Fig. 4); and WO, 2001-027667, A2</p> <p>Document 5: JP, 2003-84163, A (Sumitomo Electric Industries, Ltd.), 19 March, 2003 (19.03.03), full text, all drawings, (particularly, Claim 4 and Figs. 8 and 19); and US, 2003-147610, A1</p> <p>Document 6: WO, 2000-031573, A1 (Sumitomo Electric Industries, Ltd.), 2 June, 2000 (02.06.00), full text, all drawings, (particularly, Claims 5, 7, 12 and 13, and Figs. 11-16); EP, 1146358, A1; and US, 6266467, B1</p> <p>The subject matters of claims 1-20 are described in document 1 or 2 cited in the ISR, and so, do not appear to be novel or involve an inventive step. Document 1 or 2 mentions that, in an optical transmission line made by connecting two optical fibers whose Rayleigh scattering losses as measured at a wavelength of 0.90 <math>\mu\text{m}</math> are different from each other by 0.09 dB/km, the correction value for splice loss as measured by a backscatter method (which corresponds to "Error in splice loss measurement in OTDR test" in the invention of the present application) is 0.11 dB by calculation and 0.13 dB by actual measurement.</p> <p>Document 3 cited in the ISR describes numerical expressions that are equivalent to those on parameter K in the invention of the present application. (Refer to expression (9)-(11) in document 3.)</p> <p>The subject matters of claims 21-40 do not appear to be novel or involve an inventive step in view of documents 4-6 cited in the ISR. Document 4 describes an optical fiber whose mode field diameter at a wavelength of 1310 nm is 8.6 <math>\mu\text{m}</math> and whose zero-dispersion wavelength is 1300-1320 nm. Document 5 describes an optical fiber whose core area is made of pure quartz glass, whose clad area fluorine is added to, and whose wavelength dispersion at a wavelength of 1550 nm does not exceed 15 ps/nm/km. Document 6 describes an optical fiber whose transmission loss due to OH absorption at a wavelength of 1380 nm increases by not more than 0.1 dB/km. Accordingly the numerical limitations in the subject matters of claims 21-40 are described in documents 4-6, or merely matters of design variation that a person skilled in the art could have easily conceived.</p>			

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/011164

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The subject matters of claims 1-6, 10-13, 16, 17, 19, and 20 contain numerical limitations on parameter K.

The specification, however, contains no explanation what technical meaning the said parameter K has. Even in light of the specification, therefore, it is impossible to understand any technical meaning of those numerical limitations on parameter K in the subject matters of the above claims.

Accordingly the subject matters of claims 1-6, 10-13, 16, 17, 19, and 20 are not fully supported by the specification.

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